CLAIMS

What is claimed is:

1. A method for determining triggering of a polling request in a wireless communications protocol for a transmitter, the transmitter capable of transmitting layer 2 protocol data units (PDUs), each PDU comprising an n-bit sequence number, the method comprising:

obtaining a base sequence number VT(A), the base sequence number VT(A) marking a beginning sequence number of a transmitting window of the transmitter;

obtaining a current sequence number VT(S), the current sequence number VT(S) marking a sequence number of a PDU that is next to be transmitted by the transmitter;

obtaining a first value that is 2^n added to a difference of the current sequence number VT(S) and the base sequence number VT(A);

obtaining a second value that is a modulus of the first value with 2^n; and

obtaining a test value that is the second value divided by a size of the transmitting window;

wherein polling is triggered when the test value is greater than or equal to a polling value.

2. The method of claim 1 wherein obtaining the second value further comprises a minimum value choosing operation with the size of the transmitting window.

3. The method of claim 1 wherein the polling value indicates a percentage of PDUs in the transmitting window that have been transmitted by the transmitter.

4. A wireless communications system comprising a transmitter capable of transmitting layer 2 protocol data units (PDUs) to a receiver, each PDU comprising an n-bit sequence number, the transmitter comprising:

a state variable VT(A) indicating a starting sequence number of a transmitting window;

a state variable VT(WS) indicating a number of PDUs spanned by the transmitting window;

a state variable VT(S) indicating a sequence number of a PDU within the transmitting window that is next to be transmitted; and

a calculation unit capable of obtaining a test value t according to a relation that comprises:

$$t = ((2^n + VT(S) - VT(A)) \bmod 2^n)/VT(WS);$$

wherein the transmitter polls the receiver when the test value t is greater than or equal to a polling value.

5. The system of claim 4 wherein the polling value indicates a percentage of PDUs in the transmitting window that have been transmitted by the transmitter.

6. A wireless communications system comprising a transmitter capable of transmitting layer 2 protocol data units (PDUs) to a receiver, each PDU comprising an n-bit sequence number, the transmitter comprising:

a state variable VT(A) indicating a starting sequence number of a transmitting window;

a state variable VT(WS) indicating a number of PDUs spanned by the transmitting window;

a state variable VT(S) indicating a sequence number of a PDU within the transmitting window that is next to be

transmitted; and

a calculation unit capable of obtaining a test value t according to a relation that comprises:

$t = \min(((2^n + VT(S) - VT(A)) \bmod 2^n), VT(WS))/VT(WS);$

wherein the transmitter polls the receiver when the test value t is greater than or equal to a polling value.

7. The system of claim 6 wherein the polling value indicates a percentage of PDUs in the transmitting window that have been transmitted by the transmitter.